

THE FOLLOWING IS CLAIMED:

1. A method for forming a polymeric composition comprising:
combining water and at least one polymer having at least one dicarboxylic acid
5 anhydride group under conditions sufficient to form a polymeric composition
having at least two pendant carboxyl groups.
2. The method of Claim 1 wherein the method is solventless.
- 10 3. The method of Claim 1 wherein said combining is conducted in the presence of at
least one catalyst.
4. The method of Claim 3 wherein said at least one catalyst comprises at least one
member selected from the group consisting of tertiary amines and toluenesulfonic
15 acid.
5. A process for a carboxylic adduct comprising:
combining at least one unsaturated polymer adducted with at least one carboxylic
acid anhydride group and water while in the presence of at least one catalyst,
20 heating the combination for a time and under conditions sufficient to form a
carboxylic adduct.
6. A method for making a polymer product with multiple pendant
carboxyl groups comprising reacting a polymer having at least one carboxylic acid
25 anhydride and water.
7. The method of Claim 6 wherein said polymer comprises
anhydride moieties and has melting temperatures below about 95 degrees C at
atmospheric conditions.

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8. The method of Claim 6 wherein the polymer product comprises at least one member selected from the group consisting unsaturated polymers with multiple carboxyl groups.

5 9. The method of Claim 8 further comprising adding at least one curing agent selected from the group consisting of sulfur and various sulfur accelerators, quinones, phenolics, bismaleimides and peroxide.

10 10. The method of Claim 5 further comprising adding the carboxylic adduct to at least one elastomers.

11. The method of Claim 1 wherein the polymer comprises a polybutadiene adducted with maleic anhydride.

15 12. The method of Claim 1 wherein the polymer comprises polybutadiene.

13. The method of Claim 1 wherein the polymer has a molecular weight of greater than about 25,000.

20 14. The method of Claim 1 wherein the polymer has a polymeric backbone comprising a polybutadiene or polyisoprene polymer with a molecular weight of between about 500 g/mol and about 100,000 g/mol.

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